# SCIENCE

NEW SERIES. VOLUME LXIII

JANUARY-JUNE, 1926

NEW YORK
THE SCIENCE PRESS
1926

THE SCIENCE PRESS
PRINTING COMPANY
LANCASTER, PA.

Gen
Wahr

# CONTENTS AND INDEX

## NEW SERIES. VOL. LXIII—JANUARY-JUNE, 1926

THE NAMES OF CONTRIBUTORS ARE PRINTED IN SMALL CAPITALS


ABEL, J. J., Arthur Robertson Cushny and Pharmacology, 507
Academy of, Science, Tennessee, R. NUNN, 24; Indiana, H. F. DIETZ, 170; West Virginia, 214; Ohio, W. H. ALEXANDER, 601; North Carolina, B. CUNNINGHAM, 602; Sciences, National, Annual Meeting, 482, 505, 528, Forestry Research, 563; Utah, C. A. SMITH, 602
Acoustic Phenomena, H. M. SMITH, 586
ADAMS, E. Q., Subscript and Superscript Exponents, 621
AD INFINITUM, Characters for the Typewriter, 477
Adsorption Mechanisms, M. L. HUGGINS and J. FIELD, 2ND, 454
Agriculture, U. S. Dept., Appropriations for, 159
Airy or "Roots of Mountains" Theory, W. BOWIE, 371
Albatross II, H. B. BIGELOW, 500
ALEXANDER, W. H., Ohio Acad. of Science, 601
Algebraic Numbers and Division, J. C. FIELDS, 553
Allen, H. S., Photoelectricity, H. E. IVES, 95
ALLEN, W. E., Marine Plankton Diatoms, 96
American, Association for the Advancement of Science, A—123, 553; B—53, 123, 579; C—125; D—125; E—126; F—127, 171, 195; G—130; H—75, 135; I—136; K—137; L—137, 193; M—25, 138; N—139; O—139, 341; Q—141; Address of the retiring president, 1, 29; Pacific Div., 1926 Meeting, 13, 470; Officers, 40, 119, 143, for Kansas City Meeting, 108; Permanent Secretary's Report, 99; Science Exhibition, 104, at Philadelphia, B. E. LIVINGSTON, 561; Third Association Prize, 105; Council Roll, 109; Executive Committee Roll, 111, Spring Meeting, B. E. LIVINGSTON, 551; Legislative and Executive Proceedings, 112; Resolutions, 114, 552; Financial Reports, 115; Progress Report of Committee on Philological Sciences, 118; Progress Report of Committee on Place of the Sciences in Education, 118; The President Elect, 120; Kansas City Sessions of Sections and Societies, 122; Organization and Work, 143; Future Annual Meetings, 145; Special Notes, B. E. LIVINGSTON, 146; Smithsonian Institution, A. H. CLARK, 147; Southwestern Division, 159, 367, 204; Committee of One Hundred, Papers, 317, 321, 324; Museum of Natural History, Asiatic Expedition of, 274; Expeditions, 329; to Greenland, 538; Astronomic Hall, G. C. FISHER, 347
Amoeba Proteus, The Contractile Vacuole Granules in, M. M. METCALF, 523
Anthropological Assoc., Amer., 214
Archeological Soc., Wis., Awards, 518
Arithmetic, American, Earliest Known, L. C. KARPINSKI, 193
Armour Inst. of Tech. and Northwestern Univ., 85
ARNDT, C. H., The Askenasy Experiment, 527
ARTHUR, J. C., and F. D. KERN, Conversations with European Mycologists, 558
Arylthioureas, Formation of Arylguanidines and Arylisothiocyanates from, T. B. JOHNSON, 366
Askenasy Experiment, C. H. ARNDT, 527
Astronomic Education, Popular, G. C. FISHER, 81
Astronomical Soc., Address of Retiring President, 263
Atmometer Spheres, B. E. LIVINGSTON and J. D. WILSON, 362
Atmospheric Pollution, A. MCADIE, 310

Bacteria, in Oil Field Waters, E. S. BASTIN, F. E. GREER, C. A. MERRITT and G. MOULTON, 21; in Iron, A. C. SWINNERTON, 74
Bacterial Leafspot on Squash, M. K. BRYAN, 165
Bacteriophage, does it respire?, J. BRONFENBRENNER, 51
BAITSELL, G. A., Tissue Culture, T. S. P. Strangeways, 618
Baker, Ira Osborn, 374
BALDWIN, H. I., The Automobile and Woodpecker, 358
BARKER, F. D., Evolution and the Univ. of Nebraska, 371
BARNES, W. C., William E. Safford, 418
Barton, Samuel Marx, J. K. ROBERTS, 249
BASTIN, E. S., F. E. GREER, C. A. MERRITT and G. MOULTON, Bacteria in Oil Field Waters, 21
Bateson, William, T. H. MORGAN, 531
BAXTER, D. V., Filibert Roth, 348
BEDELL, F., and H. J. REICH, A Cathode Ray for Oscillograph, 619
BEEBE, W., The Humboldt Current, 91; Tropical Research of N. Y. Zool. Soc., 515
Beets, Sugar, Curly-top of, E. CARSNER, 213
BEHRE, C. J., JR., Sand Flotation in Nature, 405
BENNDORF, H., and V. F. HESS, Publications, Atmospheric Electricity, 571
BERGQUIST, S. G., Roger Webb Gannett, 297
Berland, L., Faune de France, L. O. HOWARD, 166
BERRY, E. W., Antaeus, or the Future of Geology, 475
Bethel, Ellsworth, T. D. A. COCKERELL, 201
Bibliographies, J. STROHL, 218
BIGELOW, H. B., The Albatross II, 500
Biological, Sciences, National Research Fellowships in, 395, F. R. LILLIE, 590; Laboratory, at Cold Spring Harbor, 419; Station Barro Colorado Island, V. KELLOGG, 491
Biologists, Program for, T. D. A. COCKERELL, 635
Biology, Experimental, Federation of Amer. Societies for, W. J. MEEK, 98; The Duty of, T. D. A. COCKERELL, 367
"Bios," M. B. MACDONALD, 187
Blood Studies in Anesthesia, H. J. STANDER and A. H. RADELET, 642
BOLTWOOD, B. B., Chemistry and Pure Science, 345
BOND, D., The de Revolutionibus Orbium Coelestium, 636
Bonne, C., and J. Bonne-Wepster, Mosquitoes of Surinam, L. O. HOWARD and H. G. DYAR, 457
BORING, E. G., Citations of Scientific Literature, 456
Botanic Garden, Brooklyn, 516
Botanical Publications, J. M. COULTER, 71
Bottle, New Spiral Gas-washing, L. H. MILLIGAN, 363
BOWEN, R. H., Structure of Plant Protoplasm, 620
BOWIE, W., The Airy or "Roots of Mountains" Theory, 371
Bragg, W. H., and W. L., X-Rays and Crystal Structure, W. P. DAVEY, 259
BREWSTER, E. T., The Fundamentalists, 383
BRIGGS, C. H., Bleached Flour and Neutralized Cream, 255
BRISTOL, C. L., Oceanographic Station at Salammbo, 448
British, Science News Service, C. W. H., 335; Assoc. for the Adv. of Science, Oxford Meeting, 396
BRONFENBRENNER, J., Does Bacteriophage respire?, 51
BROWN, B., Luminous Spider, 383
BROWN, E. D., Soc. for Pharmacol. and Exper. Therapeutics, 192
BROWNE, C. A., Sir John Burchmore Harrison, 587
Brown's Park Formation, O. A. PETERSON, 231
BRYAN, M. K., Bacterial Leafspot on Squash, 165
Buller, A. H. R., Researches on Fungi, G. P. C., 571
BURR, F. F., Woodpeckers and the Automobile, 524

Byerly, P., A Seismological Note, 307
Byerly, T. C., Living Chick Embryo, 458

C., G. P., Researches on Fungi, A. H. R. Buller, 571
Campbell, C. A. R., Bats, Mosquitoes and Dollars, T. I. Storer, 337
Campbell, F. L., Insect Toxicology, 45
Campbell, W. W., Do we live in a Spiral Nebula?, 263
Cancer, Control of, in Mass. and N. Y., 631
Capillarity Effect, F. M. Denton, 339
Carboniferous Rocks, in Mexico, G. H. Girty, 286
Carsner, E., Curly-top of Sugar Beets, 213
Case School of Applied Science, Gifts to, 470
Cats for Dissection, A. M. Reese, 501
Cattell, J. McK., Psychological Experiments, 1, 29; Scientific Research in the U. S., 188; American Men of Science, 210
Cavallini's "Asexual Cycle in Arcella," B. D. Reynolds, 545
Cell Structure and Cell Movements, P. L. du Noüy, 284
Cells in Masses, Shape of, F. T. Lewis, 607
Ceramic Pigments of Indians, F. E. E. Germann, 480
Chemical, Soc., Amer., Regional Meeting at Madison, 250; Tulsa Meeting, 273, C. L. Parsons, 432; Golden Jubilee of, 591; Warfare Service, Consultants, 539
Chemistry, at Chicago Univ., 64; and Pure Science, B. B. Boltwood, 345; at N. Y. Univ., 376; Lectureship at Cornell, 563
Chestnut Trees, Blighted, A. H. Graves, 164; Conservation of, A. P. Kelley, 476
Chick, Living, Embryo, T. C. Byerly, 458; Embryonic Membranes of, E. B. Hanan, 526
Chromium, Displaced Series in the Spectrum of, C. C. Kiess and O. Laporte, 234
Citations, Literature, Simplified, M. C. Merrill, 68; C. F. Goldthwait, 68; H. L. Knight, 69; P. H. Furfey, 231; E. G. Boring, 456; E. W. Gifford, 457; F. A. McDermott, 596; A. Rehder, 596
Clark, A. H., The Smithsonian Institution, 147
Cleveland, L. R., Oxygenation, 168
CO Bands, D. C. Duncan, 382
Cobb, J. N., University of Washington and Fisheries Research, 477
Cockerell, T. D. A., Ellsworth Bethel, 201; The Duty of Biology, 367; Program for Biologists, 635
Coffin, Charles A., Foundation, 469
Cohen, E., Qua Vadimus?, 407
Colby, C. C., Assoc. of Amer. Geographers, 287
Cole, K., New Type of Electron Spectrograph, 575
Collins, J. L., Inheritance of Anthocyanin in Crepis, 52
Colloids, Hydration of, H. C. Hampton, 49
Columbia Univ., Resignations in Dept. of Dermatology, 420
Compton, K. T., Dielectric Constant and Molecular Structure, 53
Constant-level Regulating Device, R. L. Stehle, 404
Cooksey, C. D., and D. Cooksey, Focal Spot of an X-ray Tube, 382
Copperheads, Venom of, A. M. Reese, 357
Copper Spectrum, A. G. Shenstone, 641
Cornell College, Norton Bronze Tablet, 86
Coulter, J. M., Botanical Publications, 71; History of Organic Evolution, 487
Craig, W., Twilight Song of the Wood Pewee, 525
Cram, E. B., Ransom Memorial, 501
Cream, Neutralized, C. H. Eckles, 257; H. W. Wiley, 257
Creighton, W. S., Luminescence of Fireflies, 600
Crepis, Inheritance of Anthocyanin in, J. L. Collins, 52
Crist, J. W., Graduate Work in Horticulture, 357
Crosby, I. B., Earthquakes in New England, 186
Crosby, William Otis, D. Johnson, 609
Cummings, B., Problems of a Scientific Investigator, 321
Cunningham, B., N. C. Academy of Science, 602
Curtis, O. F., Transpiration, 267
Cushny, Arthur Robertson, J. J. Abel, 507
Cutler, E. C., The Medical Profession, 603
Cylindrosporium Pomi, The Perfect Stage of, R. C. Walton and C. R. Orton, 236

Dall, W. H., Edward Sylvester Morse, 157
Darling, S. T., Memorial Prize, T. Madsen, 335
Davenport, C. B., The Old Americans, A. Hrdlička, 47
Davey, W. P., Natural History of Crystals, A. E. Hutton; Structure of Crystals, R. W. G. Wyckoff; X-Rays and Crystal Structure, W. H. and W. L. Bragg, 259
Davis, W., Earthquake Epicenters, 426
Davis, W. M., Outrageous Geological Hypotheses, 463
Davison, Herbert Franklin, X., 561
Dean, P. M., Nomenclature of Organic Compounds, 501
Decomposition of Toxins, W. A. Gardner, 545
Denton, F. M., Capillarity Effect, 339
Dewbows by Moonlight, M. Ewing, 527
Dielectric Constant and Molecular Structure, K. T. Compton, 53
Dietz, H. F., Indiana Academy of Science, 170
Dill, H. L., The Automobile and the Woodpecker, 69
Discussion and Correspondence, 18, 44, 68, 91, 164, 186, 208, 229, 255, 279, 305, 334, 355, 382, 401, 425, 454, 475, 500, 523, 544, 567, 595, 616, 635
Doremus, Charles Avery, 275
Dresden, A., Amer. Mathematical Society, 316
Duncan, D. C., CO Bands, 382

Earthquake, Study, N. Y. City as a Field for, C. A. Reeds, 415; Epicenters, W. Davis, 426
Earthquakes, in New England, I. B. Crosby, 186; Volcanic, T. A. Jaggar, 414
Eckles, C. H., Neutralized Cream, 257
Eclipse of the Sun, Total, 62
Education Board, International, 375
Educational Work in Mississippi, 251
Ehrenfeld, F., Clearness of the Ohio River, 19
Eldridge, S., Organization of Life, W. E. Ritter, 167
Electric Field, Effect of, on a Photographic Plate, A. E. Ruark and F. G. Brickwedde, 576
Electricity, Atmospheric, H. Benndorf and V. F. Hess, 571
Electrochemical, Commission, International, 327; Soc., Amer., Chicago Meeting, 376
Electrolysis and Railway Companies, I. D. Van Giesen, 308
Electron Spectrograph, K. Cole, 575
Electrons, Gyromagnetic, L. V. King, 504
Ellipsoid of Reference, New International, and the Figure of the Earth, W. D. Lambert, 242
Emerson, H., Morbidity of the American Indians, 229
Energy, Net, Determination, E. B. Forbes, 311; Excited, Transfer from Ozone to Hydrogen and Nitrogen, A. C. Grubb, 460
Engineering, and Science, A. E. Kennelly, 25; Foundation, Platform of the, A. D. Flinn, 178; Societies Library, A. D. Flinn, 590; and Industry, National Museum of, H. F. J. Porter, 181
Engineers, Electrical, Amer. Inst. of, 204
English, H. B., Mathematics for College Freshmen, 46
Epstein, P. S., Undulatory Theory of Light, 387
Ether-Drift Experiments of 1925, D. C. Miller, 433
Eugenics, Annals of, S. J. Holmes, 232
Eugenothenics, W. M. Goldsmith, 403
Evolution, and the Univ. of Nebraska, F. D. Barker, 71, H. F. Osborn, 209; Lectures on, at Calif. Inst., 181; Legislation in Kentucky, 203; of Man, 350; History of, J. M. Coulter, 487
Ewing, M., Dewbows by Moonlight, 527
Exploration, Dutch, in Central Borneo, 538

Fairchild, H. L., Pleistocene Features of Southern New England, 260
Fake, Life History of, C. W. Hargitt, 334

Fever, Oroya, Cultivation of the Microbe of, H. NOGUCHI and T. S. BATTISTINI, 212
FIELD, G. W., Polluting Water Courses, 443
FIELD, R. M., Maps for the International Geological Congress, 425
Field Museum, James Simpson-Roosevelt Expedition, 86; Rawson-Macmillan Sub-Arctic Expedition, 448
FIELDS, J. C., Algebraic Numbers, 553
Fireflies, The Luminescence of, W. S. CREIGHTON, 600
FISHER, G. C., Popular Astronomic Education, 81; Astronomic Hall of the American Museum, 347
Fisheries Research and Univ. of Washington, J. N. COBB, 477
Flames, Sensitive, A. T. JONES, 355
Flather, J. J., O. M. LELAND, 629
FLEXNER, S., Dr. Welch and the Johns Hopkins University, 272
FLINN, A. D., Platform of the Engineering Foundation, 178; Engineering Societies, Library, 590
FLINT, W. P., The Automobile and Wild Life, 426
Flour, Bleached, and Neutralized Cream, C. H. BRIGGS, 255; H. W. WILEY, 257
Flow, produced by the Gills of Oyster and Other Molluscs, P. S. GALTSOFF, 233
FORBES, E. B., Net Energy Determination, 311
Forestry Congress, World, 612
Franklin Institute Medals, 495
FRANKLIN, W. S., Operative vs. Abstract Philosophy in Physics, 623
Fundamentalists, E. T. BREWSTER, 383
FUNK, C., Isolation of Insulin, 401; Who discovered Vitamines?, 455
FURFEY, P. H., Literature Citations, 231

GAEHR, P. F., Ultra-Violet Lines, 18
GALTSOFF, P. S., Rate of Flow produced by the Gills of Oysters and Other Molluscs, 233
Galvanometry, The Microscope and, P. KIRKPATRICK, 283
Gannett, Roger Webb, S. G. BERGQUIST, 297
GARDNER, W. A., Decomposition of Toxins, 545
Gauge, McLeod, An Improved, B. NOYES, JR., 404
Geographers, Amer. Assoc. of, C. C. COLBY, 287
Geographical Soc. Amer., Award of Gold Medals, 12
Geological, Soc. of Amer., 170; Congress, International, 202; Madrid Meeting, 421; Maps for, R. M. FIELD, 425; Survey, Support of, M. M. LEIGHTON, 208; Sciences at Pasadena, 225; Hypotheses, Outrageous, W. M. DAVIS, 463
Geology, at Princeton Univ., 249; Antaeus, or the Future of, E. W. BERRY, 475; Field Trips in, W. C. MORSE, 617
Geometry, World and Experimental Science, A. C. LUNN, 579
GERMANN, F. E. E., Cooperation in Research, 324; Ceramic Pigments of the Indians of the Southwest, 480
GESELL, R., Chemical Regulation of Respiration, 58
GIFFORD, E. W., Citations of Scientific Literature, 457
GIRTY, G. H., Carboniferous Rocks in Mexico, 286
GOLDSMITH, W. M., Eugenothenics, 403
GOLDTHWAIT, C. F., Simplified Literature Citations, 68
Gonionemus, H. F. PERKINS, 93
GORTNER, R. A., A Meteor Fall, 166
GOWEN, J. W., J. M. MURRAY, M. E. GOOCH and F. B. AMES, Rickets, Ultra-Violet Light and Milk, 97
Grabau Medal, 632
GRAVES, A. H., Blighted Chestnut Trees, 164
Grey, Z., Fishing in Virgin Seas, D. S. JORDAN, 572
GRIER, N. M., The Master's Degree and Scientific Research, 570
GRINNELL, J., Taxidermy and Museum Exhibition, J. Rowley, 546
Grouse, Ruffed, J. C. PHILLIPS, 92
GRUBB, A. C., Transfer of Excited Energy from Ozone to Hydrogen and Nitrogen, 460
Grunion, Habits of the, D. S. JORDAN, 454
GUÉRARD, A., Eric Knight Jordan, 327
Guggenheim, Fund for Aeronautics, 159; Memorial Fellowships, 446

H., C. W., British Science News Service, 335
H., W. J., Douglas Stewart, 493
Haldane, J. B. S., and the University of Cambridge, 298
HALL, E. H., Sand Flotation, 571
HALL, V. E., F. DE EDS and P. J. HANZLIK, Oil Water Models of Biological Phenomena, 572
HAMPTON, H. C., The Hydration of Colloids, 49
HANAN, E. B., Embryonic Membranes of the Chick, 526
HARGITT, C. W., Life History of a Fake, 334
HARRIS, G. D., Iodine in Thyroid Deficiency, 428
HARRIS, J. A., L. F. YNTEMA and B. S. HOPKINS, Illinium, 575
Harrison, Sir John Burchmore, C. A. BROWNE, 587
Harvard Univ., Awards from the Milton Fund, 349; Expedition to Africa, 517
HECK, N. H., Researches of the Department of Terrestrial Magnetism, 477
HEGNER, R. W., Asexual Reproduction in Malarial Organisms, 479
Helmholtz's Physiological Optics, L. T. TROLAND, 597
Henry Phipps Institute, Endowment for, 250
Herpetomonads and Leishmanias, H. NOGUCHI, 503
Herrick, G. W., Injurious Insects, L. O. HOWARD, 525
Hewlett, Albion Walter, Resolutions on Death, 64
Holden, Edward Fuller, E. H. KRAUS, 84
Hole, The Deepest, M. E. JOHNSON, 94
HOLMES, S. J., Annals of Eugenics, 232
Honor, The Price of, 402
Hookworm Disease, Expedition to Cent. Amer. to study, 395
HOOTON, E. A., Racial Analysis, 75
Horticulture, Graduate Work in, J. W. CRIST, 357
Hospital of Univ. of Mich., Dedication, W. S. THAYER, 237
HOWARD, L. O., Faune de France, L. Berland, 166; Injurious Insects, G. W. Herrick, 525; and H. G. DYAR, Mosquitoes of Surinam, C. Bonne and J. Bonne-Wepster, 457
Howe, H. E., Chemistry in Industry, H. W. WILEY, 637
HOWELL, A. B., Amer. Soc. of Mammalogists, 578
Hrdlička, A., The Old Americans, C. B. DAVENPORT, 47
HUGGINS, M. L., and J. FIELD, 2ND, Adsorption Mechanisms, 454
HUGHES-SCHRADER, S., Spermatogenesis in Icerya purchasi, 500
HULSE, E. P., Characters for the Typewriter, 335
Humboldt Current and the Sargasso Sea, W. BEEBE, 91
HUMPHREYS, W. J., Traité de Geographie Physique, E. de Martonne, 189; The Temperature of the Air, 567
Hutton, A. E., Crystals, W. P. DAVEY, 259
*Hymenophysa pubescens*, Distribution, B. A. WALPOLE, 335
Hypogaeous Fungi, W. A. SETCHELL and M. G. WATSON, 313

IBARA, Y., Culture Medium for Ciliate Lacrymaria, 212
Illinium, J. A. HARRIS, L. F. YNTEMA and B. S. HOPKINS, 575
Income Tax and Scientists, R. H. TRUE, 279
Indiana Academy of Science, H. F. DIETZ, 170
Indians, American, Morbidity of, H. EMERSON, 229; White, of Darien, M. M. METCALF, 597
Inge, Dean, Science and Religion, N. E. STEVENS, 281
Insecticides, Fluorides vs. Fluosilicates as, R. C. ROARK, 431
Insulin, The Isolation of, C. FUNK, 401
Intellectual Worker, W. MACDONALD, 317
Iodine in Thyroid Deficiency, E. D. SIMPSON, 165; G. D. HARRIS, 428
Ions of Inert Gases as Catalysts, S. C. LIND and D. C. BARDWELL, 310
Iowa, Univ. of, Research in Cerebral Physiology, 299
IVES, H. E., Photoelectricity, H. S. Allen, 95

JAGGAR, T. A., Volcanic Earthquakes, 414
Johns Hopkins University, Fiftieth Anniversary, 562
JOHNSON, D., William Otis Crosby, 609
JOHNSON, M. E., The Deepest Hole, 94
JOHNSON, T. B., Formation of Arylguanidines and Aryl-isothiocyanates from Arylthioureas, 366
Joly, J., Surface History of the Earth, C. SCHUCHERT, 502
JONES, A. T., Sensitive Flames, 355
JONES, E. L., Mapping and Modern Civilization, 535
JONES, L. R., Disease-resistant Plants, 341
JORDAN, D. S., Evolution, W. C. Kraatz, 360; Mount Jordan, 402; Biology of Fishes, H. M. Kyle, 428; Habits of the Grunion, 454; Sermons of a Chemist, E. E. Slosson, 479; Fishing in Virgin Seas, Z. Grey, 572
Jordan, Eric Knight, A. GUÉRARD, 327
Jordan, Mount, D. S. JORDAN, 402

KARPINSKI, L. C., Earliest known American Arithmetic, 193
KEEN, W. W., Human Tails, 359, 595
KELLEY, A. P., Conservation of Our Native Chestnut, 476
KELLOGG, V., Research, 215; Barro Colorado Island Biological Station, 491
KENNELLY, A. E., Engineering and Science, 25; The Rumford Fund, 223
KIESS, C. C., and O. LAPORTE, Spectrum of Chromium, 234
KING, L. V., Gyromagnetic Electrons, 504
KING, W. E., Study for Medical Technicians, 36
Kingsbury, B. F., Presentation in honor of, 631
KIRKPATRICK, P., The Microscope and Galvanometry, 283
KLOPSTEG, P. E., Surface Tension Measurement, 599
KNIGHT, A. P., Losses in Trout Fry, 209
KNIGHT, H. L., Simplified Literature Citations, 69
Kraatz, W. C., Evolution, D. S. JORDAN, 360
KRAUS, E. H., Edward Fuller Holden, 84
KRUMBHAAR, E. B., Amer. Soc. for Exper. Pathology, 339
KUNZ, J., J. B. TAYLOR and W. H. RODEBUSH, Magnetic Properties of Atoms, 550
KURRELMEYER, B., Photo-electric Photometry, 640
Kyle, H. M., Biology of Fishes, D. S. JORDAN, 428

Lacrymaria, Ciliate, Culture Medium for, Y. IBARA, 212
LAMBERT, W. D., The Figure of the Earth and the New International Ellipsoid of Reference, 242
LEFFMAN, H., Scientific References, 231
Legislation, Federal, 550
LEIGHTON, M. M., Support of U. S. Geol. Survey, 208
LELAND, C. O., John J. Flather, 629
Lemmings on St. Paul Island, Alaska, H. O'MALLEY, 596
LEVENE, P. A., and H. A. SOBOTKA, Sugars and Sugar Derivatives, 73
LEWIS, F. T., Shape of Cells in Masses, 607
Light, Localization in Ctenophores, Y. K. OKADA, 262; Undulatory Theory of, P. S. EPSTEIN, 387
LILLIE, F. R., Fellowships in the Biological Sciences, 590
LIND, S. C., and D. C. BARDWELL, The Ions of Inert Gases as Catalysts, 310
LINTON, E., Scientific Method and Authority, 171, 195, 569
LIVINGSTON, B. E., Permanent Secretary's Report of Kansas City Meeting of Amer. Assoc., 99; The President Elect, 120; Special Notes, 145; Spring Meeting Executive Committee, 551; Science Exhibition at Philadelphia, 561; and J. D. Wilson, Atmometer Spheres, 362
LLOYD, F. E., *Vampyrella Lateritia*, 364; and G. W. SCARTH, Origin of Vacuoles, 459
LUNN, A. C., Experimental Science and World Geometry, 579
LUSK, W. C., Thomas Allison Smith, 179

MCADIE, A., Atmospheric Pollution, 310
MCCLENDON, J. F., The Enamel of the Teeth and the Saliva, 430
MACCURDY, G. G., Ancient Hunters, W. J. Sollas, 211
MCDERMOTT, F. A., Citations of Scientific Literature, 596
MACDONALD, M. B., The Term "Bios," 187
MACDONALD, W., The Intellectual Worker, 317
MACKIE, R. A., The Value of Sociology, 93
MCWHORTER, F. P., Differential Counts of Small Spores, 211
MADSEN, T., S. T. Darling Memorial Prize, 335
Magnetic Properties of Atoms, J. KUNZ, J. B. TAYLOR and W. H. RODEBUSH, 550
Magnetism, Terrestrial, Researches in, N. H. HECK, 477
Mammalogists, Amer. Soc. of, A. B. HOWELL, 578
Mammals, Are *Dromatherium* and *Microcononon?*, G. G. SIMPSON, 548
Mapping and Modern Civilization, E. L. JONES, 535
Martonne, E. de, Traité de Geographie Physique, W. J. HUMPHREYS, 189
Mathematical Soc., Amer., R. G. D. RICHARDSON, 315; A. DRESDEN, 316
Mathematics for College Freshmen, H. B. ENGLISH, 46
MAYER, L. S., Radio Information, 618
Medal, Daniel Giraud Elliot, 329
Medical, Technicians, W. E. KING, 36; Education at Univ. of Cincinnati, Exhibition, 203; Profession, E. C. CUTLER, 603
Medicine, Yale School of, 13
MEEK, W. J., Federation of Amer. Societies for Exper. Biology, 98; Amer. Physiological Soc., 191
MENGES, C. L. R. E., Relativity, 427
MENZIES, A. W. C., and C. A. SLOAT, Millikan Rays, 44
MERRILL, M. C., Simplified Literature Citations, 68
Metallurgical Laboratories, of Pittsburgh Station, 223
METCALF, M. M., Contractile Vacuole Granules in Amoeba Proteus, 523; The "White Indians" of Darien, 597
Meteor Fall, R. A. GORTNER, 166
Metric System, Britten Bill, 224
METZ, C. W., Monocentric Mitosis in *Sciara*, 190
MEYER, A. W., Reprints, 187
MILLER, D. C., Ether-drift Experiments of 1925, 433
MILLER, R. C., and L. C. BOYNTON, Digestion of Wood by the Shipworm, 524
MILLIGAN, L. H., New Spiral Gas-washing Bottle, 363
Millikan Rays, A. W. C. MENZIES and C. A. SLOAT, 44
Mine Safety Research, 589
Mineralogical Soc. of Amer., 170
MINNICH, D. E., Amer. Soc. of Zoologists, 214
Mitosis, Monocentric, in *Sciara*, C. W. METZ, 190
MOHLER, F. L., The Spectra Argon II and Neon II, 405
MOOK, C. C., Osteology of Reptiles, S. W. Williston, 20
MORGAN, T. H., William Bateson, 531
Morse, Edward Sylvester, W. H. DALL, 157; H. W. WILEY, 280
MORSE, W. C., Field Trips in Geology, 617
Mycologists, European, Conversations with, J. C. ARTHUR and F. D. KERN, 558
Mycology, Systematic, C. L. SHEAR and F. E. CLEMENTS, 393

NAKAHARA, W., Chicken Sarcoma, 549
National, Research, Endowment, 10, 158; Council, Work of the Committee on the Atmosphere and Man, 328; Acad. of Sciences, 482, 505, 528; Forestry Research, 563; Fellows in the Medical Sciences, 519
Naturalists, Amer. Soc. of, A. F. SHULL, 315
Nebula, Spiral, Do we live in a?, W. W. CAMPBELL, 263
NEUMANN, F., Biographisch-literarisches Handwörterbuch, J. C. Poggendorff, 309
NEWTON, A. J., Royal Photographic Society, 524
N. Y. State Museum, Lectures, 39
NOGUCHI, H., Herpetomonads and Leishmanias, 503; and T. S. BATTISTINI, The Microbe of Oroya Fever, 212
Nomenclature, Zoological, T. W. VAUGHAN, 338; International Commission, C. W. STILES, 361; of Organic Compounds, P. M. DEAN, 501; Astacus, 1775, vs. Potamobius, 1819, C. W. STILES and C. E. BAKER, 544
North Carolina Acad. of Science, B. CUNNINGHAM, 602

NOÜY, P. L. DU, Cell Structure and Cell Movements, 284
NOYES, B., JR., An Improved McLeod Gauge, 404
NUNN, R., Tennessee Academy of Science, 24
NUTTING, C. C., Work on Sphenodon, 210
NUTTING, P. G., The Developed Photographic Image, F. E. Ross, 48

Oceanographic, Investigations, T. W. VAUGHAN, 8, 297; Station at Salammbo, C. L. BRISTOL, 448
Ohio, River, Clearness of the, F. EHRENFELD, 19; Acad. of Science, W. H. ALEXANDER, 601
Oil, and Gas Power National Conference, 396; Water Models and Biological Phenomena, V. E. HALL, F. DE EDS and P. J. HANZLIK, 572
OKADA, Y. K., Light Localization in Ctenophores, 262
O'MALLEY, H., Lemmings on St. Paul Island, Alaska, 596
Optical Experiment, Outdoor, H. N. RUSSELL, 616
Orbium Coelestium, de Revolutionibus, D. BOND, 636
OSBORN, H. F., Evolution and the Univ. of Nebraska, 209
Oscillograph, A Cathode Ray, F. BEDELL and H. J. REICH, 619
Oxygenation, L. R. CLEVELAND, 168

PALMER, R. H., Upper Pleistocene along the Oaxaca Coast of Mexico, 476
Pan-Pacific Science Congress, Third, 351
Parson, B. S., Left-handedness, S. SMITH, 383
PARSONS, C. L., Tulsa Meeting of Amer. Chem. Soc., 432
Pathology, Exper., Amer. Soc. for, E. B. KRUMBHAAR, 339
PEARSON, J. F. W., Tropical Research Station of N. Y. Zool. Soc., 546
Pewee, Wood, Twilight Song of the, W. CRAIG, 525
PERKINS, H. F., Gonionemus, 93
PETERSON, O. A., Brown's Park Formation, 231
Pharmacology and Exp. Therapeutics, Soc. for, E. D. BROWN, 192
PHILLIPS, J. C., The Ruffed Grouse, 92
Physical, Soc., Amer., Address of President, 433; Laboratory, Nat., of Gt. Britain, 610
Physics, Philosophy in, W. S. FRANKLIN, 623
Physiological Soc., Amer., W. J. MEEK, 191
Photometry, Photo-electric, B. KURRELMEYER, 640
Piper, Charles Vancouver, A. J. PIETERS, 248
Pittsburgh, Univ. of, Mellon Lectures, 419
Plankton Diatoms, Marine, W. E. ALLEN, 96
Plant Sciences, International Congress of, 180
Plants, Disease Resisting, L. R. JONES, 341
Pleistocene, Features of Southern New England, H. L. FAIRCHILD, 260; Upper, in Mexico, R. H. PALMER, 476
Plotz, Ella Sachs, Foundation, 299
Poggendorff, J. C., Biographisch-literarisches Handwörterbuch, F. NEUMANN, 309
PORTER, H. F. J., National Museum of Engineering and Industry, 181
Potatoes, Wart Disease of, W. A. ROACH and W. B. BRIERLEY, 307
Poultry Congress, World's, 275
PRICE, G. MCC., Letter to the Editor of SCIENCE, 259
Protein, Crystalline, Isolation of, with Tuberculin Activity, F. B. SEIBERT, 619
Protoplasm, Plant, Structure of, R. H. BOWEN, 620
Psychological Experiments, J. MCK. CATTELL, 1, 29

Qua Vadimus?, E. COHEN, 407
Quotations, 189, 335, 403

Radio Information, L. S. MAYER, 618
Racial Analysis, E. A. HOOTON, 75
RAKESTRAW, N. W., The Amateur Scientist, 280
Ransom Memorial, Proposed, E. B. CRAM, 501
Recreation, Conference on, H. B. WARD, 63
REEDS, C. A., New York City as a Field for Earthquake Study, 415
REESE, A. M., Venom of Copperheads, 357; Cats for Dissection, 501
REHDER, A., Citations of Scientific Literature, 596
Relativity, C. L. R. E. MENGES, 427
Reprints, A. W. MEYER, 187
Reproduction, Asexual, in Malarial Organisms, R. W. HEGNER, 479
Research, National Endowment, 10, 158; V. KELLOGG, 215; Biological, T. W. VAUGHAN, 297; Prehistoric Amer. School of, 300; Cooperation in, F. E. E. GERMANN, 324; and Teaching, 403; at Oceanographical Inst. of Monaco, D. A. SEIDELL, 468; University, 518; Forestry, under Nat. Acad. of Sciences, 563; Scientific and the Master's Degree, N. M. GRIER, 570
Respiration, Chemical Regulation of, R. GESELL, 58
REYNOLDS, B. D., Cavallini's "Asexual Cycle in Arcella," 545
RICHARDSON, R. G. D., Amer. Math. Soc., 315
RIGGS, J. D., Characters for the Typewriter, 617
RITTER, W. E., Organization of Life, S. Eldridge, 167
ROACH, W. A., and W. B. BRIERLEY, Disease of Potatoes, 307
ROARK, R. C., Fluorides vs. Fluosilicates as Insecticides, 431
ROBERTS, J. K., Samuel Marx Barton, 249
Rockefeller Foundation, Activities of, 613
ROGERS, H. W., Railroad Passes for Scientific Workers, 457
Ross, F. E., The Photographic Image, P. G. NUTTING, 48
Rotation of Ciliated Animals, E. E. WILDMAN, 385
Roth, Filibert, D. V. BAXTER, 348
Rowley, J., Taxidermy and Museum Exhibition, J. GRINNELL, 546
Royal, Society, Medals, Professor Einstein, 11, Professor Perkin, Professor Seward, Sir James Irvine, Professor Whitehead, F. E. Smith, 38; New Foreign Members, 611; Edinburgh, Elections, 375; College of Surgeons, Award of Prizes, 494; Photographic Soc., A. J. NEWTON, 524
RUARK, A. E., and F. G. BRICKWEDDE, Effect of an Electric Field on a Photographic Plate, 576
Rumford Fund, A. E. KENNELLY, 223
RUSSELL, H. N., Outdoor Optical Experiment, 616
Russian Scientific Activities, 298

Saccardo, P. A., "Sylloge Fungorum," W. TRELEASE, 361
Safford, William E., W. C. BARNES, 418
Sand Flotation in Nature, C. H. BEHRE, JR., 405; E. H. HALL, 571
Sarcoma, Chicken, W. NAKAHARA, 549
SCHAFFNER, J. H., Sexuality and Chromosome Constitution, 384
SCHREINER, R., and L. M. SNOW, Unusual Strain of *Serratia marcescens bizio*, 18
SCHUCHERT, C., Surface History of the Earth, J. Joly, 502
Schuchert, Charles, Tribute to, 450
Science, Pure, The Torch of, 188; not in it, E. E. SLOSSON, 258; and Industry, Commonwealth Inst. of, 630
Scientific, Events, 11, 38, 62, 85, 158, 180, 202, 223, 249, 273, 298, 327, 349, 375, 395, 419, 448, 469, 494, 517, 538, 561, 589, 610, 630; Notes and News, 14, 41, 64, 87, 160, 182, 205, 225, 251, 276, 300, 330, 351, 377, 397, 422, 450, 471, 496, 519, 540, 564, 591, 613, 632; Books, 29, 47, 71, 95, 166, 189, 211, 232, 259, 282, 309, 336, 360, 383, 428, 457, 477, 502, 525, 546, 571, 597, 618, 637; Apparatus and Laboratory Methods, 49, 211, 233, 283, 362, 404, 458, 526, 572, 599, 619, 640; Method and Authority, E. LINTON, 171, 195, 569; Research in the U. S., J. MCK. CATTELL, 188; References, Quotation of, H. LEFFMANN, 231; Investigator, Problems of, B. CUMMINGS, 321; Workers, Railroad Passes for, H. W. ROGERS, 457
Scientist, Amateur, N. W. RAKESTRAW, 280
SEIBERT, F. B., Isolation of Crystalline Protein with Tuberculin Activity, 619
SEIDELL, D. A., Research at the Oceanographical Institute of Monaco, 468
Seismic Wave Velocity, J. H. SERVICE, 616

Seismological, Note, P. Byerly, 307; Soc. of Amer., Eastern Section, 328, 449
*Serratia marcescens bizio*, Unusual Strain of, R. Schreiner and L. M. Snow, 18
Service, J. H., Seismic Wave Velocity, 616
Setchell, W. A., and M. G. Watson, The Hypogaeous Fungi, 313
Sexuality and Chromosome Constitution, J. H. Schaffner, 384
Shear, C. L., and F. E. Clements, Systematic Mycology, 393
Shenstone, A. G., Copper Spectrum, 641
Shipworm, Digestion of Wood by, R. C. Miller and L. C. Boynton, 524
Shull, A. F., Amer. Soc. of Naturalists, 315
Sigma Xi, at Univ. of Cincinnati, 495
Simpson, E. D., Iodine in Thyroid Deficiency, 165
Simpson, G. G., Are *Dromatherium* and *Microconodon* Mammals?, 548
Slosson, E. E., Science not in it, 258
Slosson, E. E., Sermons of a Chemist, D. S. Jordan, 478
Smith, C. A., Utah Academy of Sciences, 602
Smith, E. F., Black Chaff of Wheat in Russia, 305
Smith, H. M., Acoustic Phenomena, 586
Smith, S., Left-handedness, B. S. Parson, 383
Smith, Thomas Allison, W. C. Lusk, 179
Smithsonian, Institution, A. H. Clark, 147; Chrysler Expedition to Africa, 249; Astrophysical Observatory, 273
Societies and Academies, 170, 191, 214, 315, 339, 432, 578
Sociology, The Value of, R. A. Mackie, 93
Soil Science, Fifth International Conference, 494
Solar Observatory, in Southwest Africa, 470
Sollas, W. J., Ancient Hunters, G. G. MacCurdy, 211
Special Articles, 21, 51, 73, 96, 168, 190, 212, 234, 260, 284, 310, 338, 364, 384, 405, 430, 459, 479, 503, 527, 548, 575, 600, 619, 641
Spectra Argon II and Neon II, F. L. Mohler, 405
Spermatogenesis in Icerya purchasi, S. Hughes-Schrader, 500
Sphenodon, Work on, C. C. Nutting, 210
Spider, Luminous, B. Brown, 383
Spores, Differential Counts of Small, F. P. McWhorter, 211
Spillman, W. J., Growth of Trees, 18
Standardization, International Organization for, 539
Stander, H. J., and A. H. Radelet, Blood Studies in General Anesthesia, 642
Standley, P. C., Carlos Wercklé, 221
Statistical Inference, E. B. Wilson, 289
Stehle, R. L., Constant Level Regulating Device, 404
Stevens, N. E., Dean Inge on Science and Religion, 281
Stewart, Douglas, W. J. H., 493
Stiles, C. W., Nomenclature, 361; and C. E. Baker, The Case of *Astacus*, 1775, vs. *Potamobius*, 1819, 544
Storer, T. I., Bats, Mosquitoes and Dollars, C. A. R. Campbell, 337
Strangeways, T. S. P., Tissue Culture, G. A. Baitsell, 618
Stratton, F. J. M., Astronomical Physics, R. E. Wilson, 336
Strohl, J., Bibliographies, 218
Subscript and Superscript Exponents, E. Q. Adams, 621
Sugars and Sugar Derivatives, P. A. Levene and H. A. Sobotka, 73
Surface Tension Measurement, P. E. Klopsteg, 599
Swift, T. T., Channel Trenching in the Southwest, 70
Swinnerton, A. C., Iron Bacteria, 74

Tails, Human, W. W. Keen, 359, 595
Teaching, Freedom of, Resolutions, 225
Technologists, Asphalt Paving, Assoc. of, 180
Teeth, Enamel of, and the Saliva, J. F. McClendon, 430
Temperature of the Air, why it decreases with Increase of Height, W. J. Humphreys, 567
Tennessee Acad. of Sci., R. Nunn, 24
Thayer, W. S., Address on the Dedication of the New Hospital of the University of Michigan, 237
Thompson, Elizabeth, Science Fund, 419
Toxicology, Insect, F. L. Campbell, 45
Transpiration, O. F. Curtis, 267
Trees, Growth of, W. J. Spillman, 18
Trelease, W., "Sylloge Fungorum," P. A. Saccardo, 361
Trenching, Channel, in Southwest, T. T. Swift, 70
Troland, L. T., Helmholtz's Physiological Optics, 597
Tropical Research, W. Beebe, 515; Station, J. F. W. Pearson, 546
Trout Fry, Losses in, A. P. Knight, 209
True, R. H., Scientists and the Income Tax, 279
Typewriter, Characters for, E. P. Hulse, 335; Ad Infinitum, 477; J. D. Riggs, 617

Ultra-Violet, Lines, P. F. Gaehr, 18; Light and Milk, and Rickets, J. W. Gowen, J. N. Murray, M. E. Gooch and F. B. Ames, 97
University and Educational Notes, 17, 44, 68, 91, 164, 186, 208, 229, 255, 278, 305, 333, 355, 381, 401, 425, 454, 475, 499, 523, 544, 567, 594, 615, 635
Utah Academy of Science, C. A. Smith, 602

Vacuoles, Origin of, F. E. Lloyd and G. W. Scarth, 459
*Vampyrella Lateritia*, F. E. Lloyd, 364
Van Giesen, I. D., Attitude of Electrical Railway Companies on Electrolysis, 308
Varney, B. M., Climatic Laws, S. S. Visher, 282
Vaughan, T. W., Oceanographic Investigations, 8, 297; Generic Name Phyllocoenia Milne Edwards and Haime, 338
Visher, S. S., Climatic Laws, B. M. Varney, 282
Vitamines, Who discovered them?, C. Funk, 455

W., E. B., The Naples Zoological Station, 271
Walpole, B. A., Distribution of *Hymenophysa pubescens*, 335
Walton, R. C., and C. R. Orton, *Cylindrosporium Pomi*, 236
Ward, H. B., Conference on Recreation, 63
Water Courses, Polluting, G. W. Field, 443
Welch, Dr., and the Johns Hopkins Univ., S. Flexner, 272
Wercklé, Carlos, P. C. Standley, 221
West Virginia Academy of Science, 214
Wheat, Black Chaff of, in Russia, E. F. Smith, 305
Wild Life and the Automobile, W. P. Flint, 426
Wildman, E. E., Rotation of Ciliated Animals, 385
Wiley, H. W., Bleached Flour and Neutralized Cream, 257; Edward Sylvester Morse, 280; Chemistry in Industry, H. E. Howe, 637
Williston, S. W., Osteology of Reptiles, C. C. Mook, 20
Wilson, Edwin B., Statistical Inference, 289
Wilson, R. E., Astronomical Physics, F. J. M. Stratton, 336
Woodpecker and Automobile, H. L. Dill, 69; H. I. Baldwin, 358; F. F. Burr, 524
Wyckoff, R. W. G., Structure of Crystals, W. P. Davey, 259

X., Herbert Franklin Davison, 561
X-ray Tube, the Focal Spot of, C. D. and D. Cooksey, 382

Yale, New Museum of Natural History, 39

Zoological, Soc., New York, 86; Station, Naples, E. B. W., 271; Nomenclature, International Commission on, C. W. Stiles, 361
Zoologists, Amer. Soc. of, D. E. Minnich, 214